Lotus

White Paper

Real-time Collaboration with Lotus Sametime

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Contents

Executive Summary

In today's marketplace, the demands of globalization and e-business force nearly every company to face new challenges:

- Greater decentralization and a growing need to work effectively in distributed teams

- Semi-permeable organizational boundaries, with more information flowing to and from business partners and customers

- New customer expectations for service and responsiveness

- The need for "bricks and mortar" corporations to leverage corporate knowledge to their strategic advantage against Internet start-ups

- The never-ending drive to increase efficiency and reduce cycle times

Enterprise Resource Planning (ERP) is one example of a technology investment that can help a business confront many of these new challenges. And indeed, ERP integration has rapidly become a virtual prerequisite for organizational survival.

Another technology has recently matured that equals or surpasses ERP in the scope of its potential impact on business success. As with ERP, successful early adopters will achieve significant advantage while their competitors scramble to catch up. This technology is real-time collaboration.

Real-time collaborative capabilities include virtual conferencing, instant messaging, shared whiteboards, and the ability to categorize your coworkers' areas of expertise into manageable "buddy lists." These capabilities have long been available in various forms but have only recently entered mainstream corporations. Figure 1 illustrates that the rate of adoption of real-time collaboration has recently accelerated as more and more organizations report impressive returns on investment and real business benefits. According to Forrester Research analyst Ted Schadler, "[Real-time collaboration] is growing from consumer chat into an important new communications channel for business.'' (USA Today, 10/23/2000).

Real-time collaboration saves money, enhances communication, and creates tighter relationships with customers, partners, and suppliers
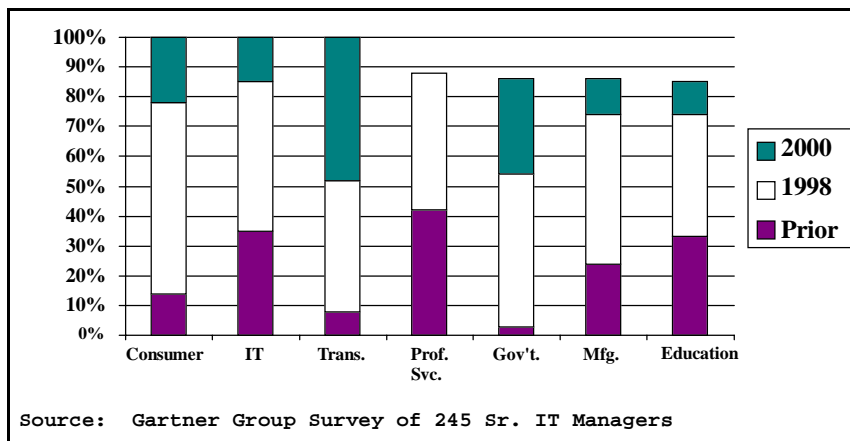
Figure 1: Percentage of organizations planning to deploy real-time conferencing

Real-time collaboration refers to instantaneous, live communication between two or more people. When the two people are in different places, technological assistance (such as the telephone) is required for them to communicate. Figure 2 illustrates the relationship among familiar forms of collaboration.

	Same Place	Different Place
Same Time	Face to Face Meeting	**Real-Time Collaboration**
Different Time	Asychronous Collaboration (Messaging)	Snail Mail
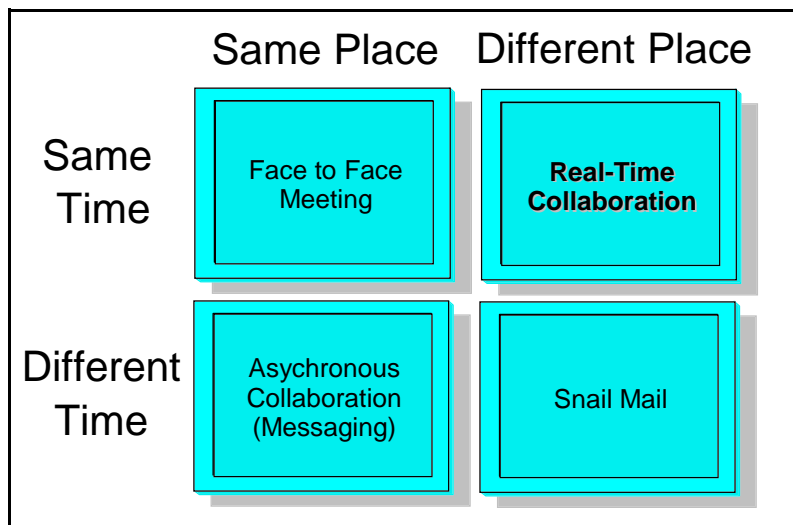
Figure 2: Forms of collaboration across time and distance

The advantages of real-time collaborative technology can be summarized as:

- **Immediacy:** Real-time collaboration helps teams make decisions faster and find people and expertise faster.

- **Reach:** Real-time collaboration helps minimize the disadvantages of working in distributed teams by improving information and knowledge transfer.

- **Richness:** Real-time collaboration is a new form of communication that offers the natural flow of a telephone conversation with the added richness of live images and data.

Simply put, real-time collaboration provides a cost-effective way to initiate and sustain communication among employees, partners, customers, and suppliers. It helps distributed teams work more effectively and make better decisions. It reduces costs by cutting the need for travel and allowing immediate communication. Perhaps most importantly, it facilitates knowledge sharing, allowing organizations to leverage what their people know to create new knowledge and improve responsiveness, innovation, competency, and efficiency across departments and processes.

Electronic messaging technology, in the form of e-mail, groupware, document libraries, discussion databases, intranets, and the Web, has long been an indispensable tool for asynchronous collaboration in business. Yet until recently, the telephone has remained the only widely available tool for real-time collaboration. Now real-time electronic messaging technologies like secure instant messaging and data conferencing have emerged as mainstream business tools. Soon interactive customer service, virtual meetings, and instant messaging will be as much a part of our working lives as telephones and e-mail.

Real-time Collaboration with Lotus Sametime

Lotus Sametime is the first real-time collaboration product that offers a complete range of integrated, real-time services while meeting enterprise and e-business requirements for scalability, manageability, and security.

Sametime services fall into three areas:

- **Conferencing Services:** These services include a shared whiteboard and the ability to share programs and documents online. Sametime also offers a server-based Meeting Center where users can schedule online meetings in advance and store agendas and other meeting materials.

- **Secure Instant Messaging Services:** These services include awareness, instant messaging, and chat. A buddy list makes Sametime users aware of who is available (and who is online but unavailable) to receive an instant message or participate in a chat with one or more people.

- **Integration Services:** Sametime also provides a comprehensive Java-based API that enables customers to easily integrate real-time collaborative capabilities into other applications, such as e-commerce sites, help desks, and training/information delivery applications like Sales Force Automation.

Collaborating in real-time will help you instantly and easily find the knowledge you need and can provide a forum to securely collaborate via the Web.

Sametime Conferencing Services

Sametime Conferencing Services provide the ability to share *objects* (such as desktop applications, presentations, documents, and drawings) online. Users can schedule an online meeting in advance, or move directly from an instant message to a screen-sharing or whiteboard session such as the one shown in Figure 3.
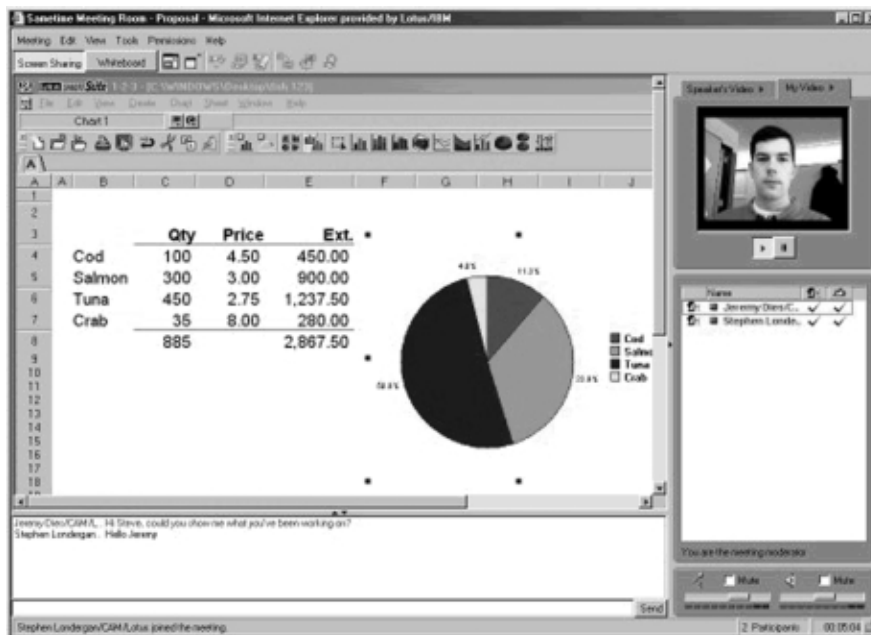
Figure 3: Ad hoc online screen sharing

Sametime allows any user to share any program from his or her desktop, such as word processors, spreadsheets, and project management software. Other participants are not required to have the same software in order to participate and see what's being shared. When appropriate, users can also pass control of the application back and forth as necessary; the initiator can reassert control at any time.

Sametime's shared whiteboard is the online equivalent of a typical whiteboard in an office or classroom. Users can draw on it, show presentations, and annotate documents on it. Sametime also converts popular file types into "pages" for convenient display during whiteboard sessions.

As noted above, Sametime fully supports both ad hoc and scheduled meetings. Online meetings can be anything from a quick "show me" session among two people, to team briefings on a new product, to a full-scale virtual seminar involving hundreds of participants across both the WAN and the Web. Meeting information is posted in a server-based Meeting Center, along with agendas and preparatory materials. Invitees can access these materials anytime before, during, or after the meeting. For maximum convenience and to eliminate barriers to off-site invitees, users can participate in online meetings and whiteboard sessions directly from Web browsers, without downloading and installing special software or plug-ins.

Users can also specify the type of meeting to help manage bandwidth. For example, a user can have a meeting that is designed to allow several people to collaborate on a specific application. Sametime also allows a user to set up meetings that are designed for one presenter and a large audience of observers, like an organizational or earnings announcement. The meeting moderator decides which services (chat, whiteboarding, audio/video, etc.) will be available to each participant. In this way the user easily customizes the meeting based on their goals and collaboration needs.

Figure 4 shows what an organization's Meeting Center might look like when accessed via a Web browser:
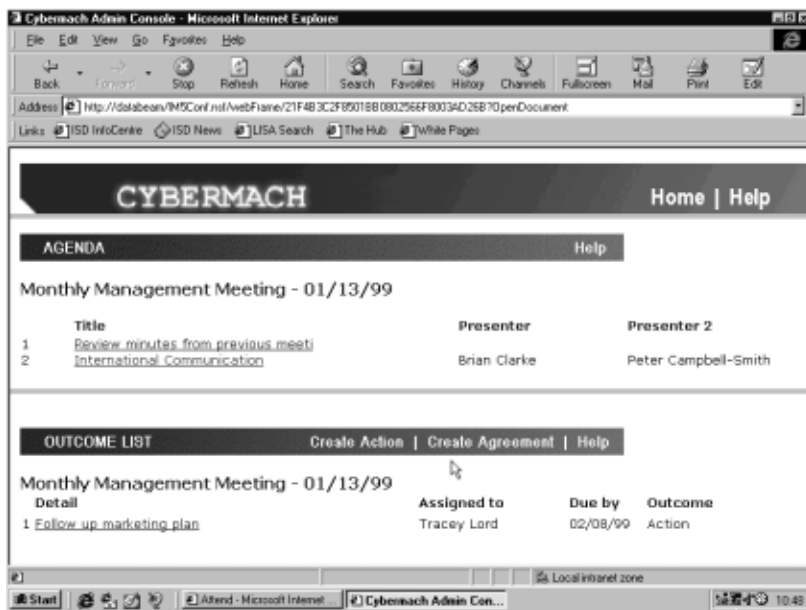
Figure 4: A Sametime Meeting Center

Sametime Secure Instant Messaging Services

Most real-time communication is unscheduled and has nothing to do with computer technology. For example, you hear the voice of a colleague outside your office door, and you step out to speak to her face-to-face. Online, real-time collaboration is also very convenient and most effective when it occurs spontaneously, just like the hallway encounter.

But like a face-to-face encounter, you need to be *aware* of the opportunity to interact. Sametime recognizes this fact and incorporates the ability to tell the server your availability. A user can tell the server whether they are online, away from their computer, or they can even ask not to be disturbed. The awareness capabilities of Sametime help make spur-of-the-moment, online conversations as natural, convenient, and worthwhile as a hallway chat. And, in situations where text chat may not be enough, Sametime's audio and video support allows a much more personal and productive tool to complement a typical text chat.

Sametime makes users aware of opportunities for online interaction via a sophisticated buddy list, used to identify which members of a community are online and whether they are available to interact. Sametime can obtain the identities of users directly from the enterprise directory (such as the Domino Directory) or from its own integrated directory.

Sametime can also provide awareness and a secure communication channel to customers and business partners outside the firewall through integration with America Online's Instant Messenger (AIM) service. With the Sametime Connect client, users can exchange instant messages with any AIM user. (Administrators determine whether this Sametime capability is enabled.) Sametime even enables users to replace obscure AOL names with more meaningful "nicknames." Figure 5 shows a buddy list with AIM members.

Figure 5: A Sametime Connect Client

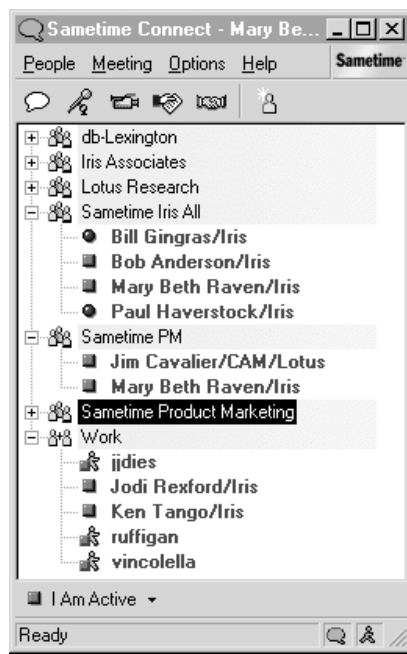Once users are aware of who is online, they can initiate interaction simply by sending an instant message. A user might start an instant message, an online meeting, a telephone call—whatever suits the task at hand. For example, an instant message is an efficient, low-bandwidth medium for the quick clarification of an idea; but to explain the details of a design specification, a phone call may be a more appropriate medium.

Of course, nobody wants to be available for spontaneous communication—read "interruption"—all the time. For this reason, Sametime gives each user full control over their availability. Levels of participation include Active (online and available), Away (offline or otherwise unavailable) and Do Not Disturb (online but unavailable).

Sametime Integration Services

In addition to conferencing and secure instant messaging, Sametime offers developers a comprehensive set of Java-based tools, components, and APIs to integrate real-time collaboration capabilities with other applications. These tools include a full set of applets and component services for awareness, real-time chat, instant messaging, shared whiteboards and screen sharing.

You do not need Lotus Notes or Domino to get the full functionality of Sametime, but if you do have a Domino environment, Sametime includes pre-enabled Domino templates to add awareness and instant messaging capabilities to Domino-based mail databases, discussion databases, and document libraries. In a Sametime-enabled mail inbox, for example, the e-mail user can determine if the author or recipients of a new message are currently online and can instantly communicate with them via chat or an online meeting. In a Sametime-enabled discussion database, participants can determine who is reading or contributing content and start a chat or online meeting if desired.

You can also customize the appearance of the Sametime Meeting Center itself. Figure 5 above is an example.

Sametime Features

Sametime is the first real-time collaboration platform that meets e-business requirements for security, manageability, and scalability. To simplify deployment and maintenance, Sametime offers a standards-based architecture and support for a wide range of clients and protocols. Sametime is also highly extensible and configurable, enabling customers to leverage a real-time collaborative infrastructure to add value to other e-business Web applications.

The Sametime architecture

Sametime can be deployed as a standalone network or integrated with an existing messaging infrastructure such as Lotus Domino or Microsoft Exchange. Sametime includes these components:

- **A Sametime Server**: Supports Conferencing Services, Secure Instant Messaging Services, or both

- **The Sametime Connect client**: An optional Windows 32-based client that allows users to immediately participate in and take advantage of the awareness, instant messaging, and multiparty chat capabilities of Sametime

- **The Sametime Toolkit**: Helps you add componentized real-time functionality to Web and other e-business applications

The Sametime Server runs on Windows NT. Sametime Connect runs on Windows 95/98 and Windows NT Workstations.

To ease integration with existing network infrastructures, Sametime supports all applicable standards, such as the International Telecommunication Union (ITU) T.120 standard for data conferencing and object sharing. Future releases will support the emerging H.323 standard for audio/video transmission. Lotus is an active member of the Internet Engineering Task Force (IETF), where we are working with companies like Microsoft to define and encourage the Instant Messaging and Presence Protocol (IMPP).

Sametime client support

To simplify its deployment to end users and to eliminate barriers to real-time interaction both within and outside the business, Sametime supports a wide range of popular desktop clients, including:

- **Web browsers**, which can access all Sametime features.
- **The Sametime Connect client**, which can access Sametime's awareness, instant messaging,, and real-time chat features. If your company uses Conferencing Services, you can also launch into full collaborative meetings from the Connect client.
- **The Sametime Java Connect client,** which has the same features of the Connect Client but is entirely Java-based.
- **Any T.120 compatible client**, such as the Microsoft NetMeeting client, which can access Sametime's application sharing and shared whiteboard services.

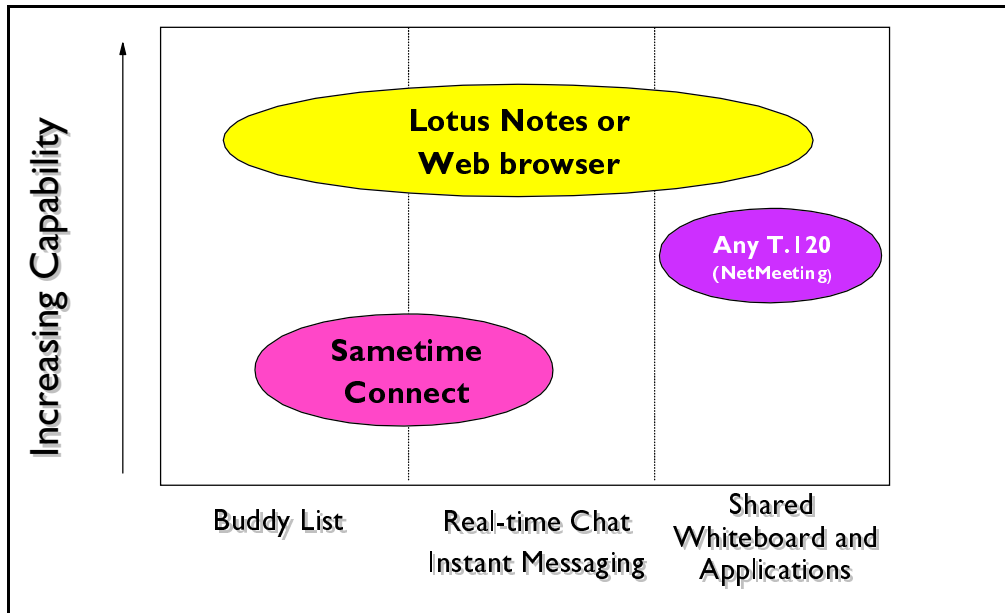Figure 6 shows the Sametime functional capabilities that each client type can access.

Figure 6: Sametime client capabilities

Sametime security and privacy

Sametime offers an exceptional range of security and privacy options for both conferencing and secure instant messaging. For example:

- Each user can specify who can or cannot see when he or she is online.
- Users can specify "Do Not Disturb" to indicate that they are online but not currently available.
- Sametime Conferencing Services uses 128-bit encryption for all audio, video, and data sharing features.
- Sametime Secure Instant Messaging text messages are secured by 40-bit encryption.
- All participants are authenticated via the corporate directory or Sametime directory using 128-bit encryption.
- Participants can password-protect and/or "hide" online meetings so only invitees can attend.
- Sametime servers can be password protected so that only authorized users can access the server.

To promote easy yet secure access to its capabilities, Sametime also provides a wide range of proxy support, including HTTP tunneling, HTTPS, SOCKS4, and SOCKS5. By placing a Sametime proxy server outside the firewall, external participants can attend a meeting without obtaining access to the LAN.

Sametime network management

The Sametime architecture is designed to be highly manageable and to integrate closely with a Notes/Domino environment, if desired.

For example, administrators can use familiar Domino tools to monitor the Sametime server via capabilities like server logging, real-time monitoring of server utilization, and the ability to broadcast Sametime messages.

Another important factor in manageability is scalability. The Sametime Server is highly scalable and delivers outstanding performance. Sametime can readily support up to tens of thousands of users in awareness mode, and up to several hundred users within a single shared whiteboard or program-sharing session.

Using Sametime with NetMeeting

Through its implementation of the T.120 online conferencing standard, the Sametime Server can host virtual meetings for any T.120 application, including Microsoft NetMeeting. In short, Sametime can act as a server backbone for hosting NetMeeting conferences, as illustrated in Figure 7.
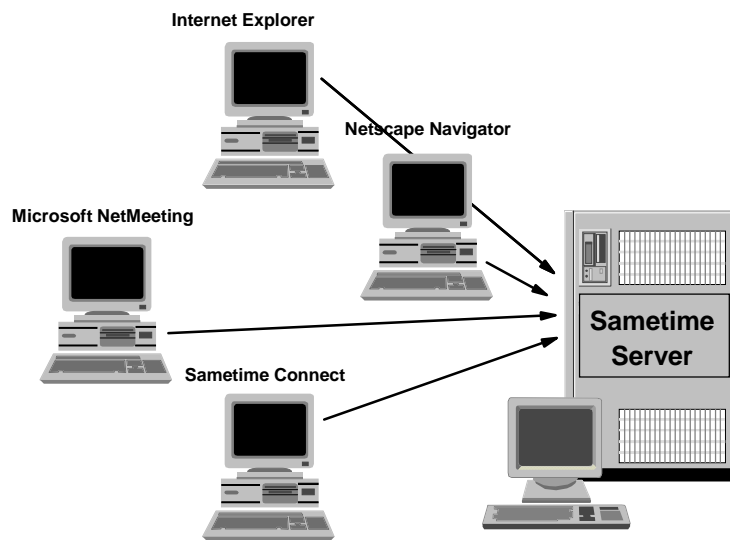
Figure 7: Hosting conferences on the Sametime Server

Integrating Real-time and Asynchronous Collaboration

The business benefits of real-time collaboration are maximized in combination with asynchronous collaboration technologies like messaging and groupware/intranets. Together, these technologies provide a range of capabilities that is more comprehensive and more natural to use than either used alone.

In an environment that integrates both asynchronous and real-time communication tools, users can move from one mode of interaction to another more conveniently. After all, everyone chooses different modes of collaboration throughout the work day: sending an e-mail, answering a phone call, conversing at the copier, attending a meeting, taping a sticky note to someone's computer screen—whatever works. Using the Web to communicate in real-time can enhance these interactions. For example:

- A user receives an e-mail, sees that the sender is online, and sends an instant message to request a follow-up conversation.

- A user sends an e-mail to several recipients. Shortly thereafter, she is invited to join two of the recipients in a three-way text or audio/video chat regarding the message.

- A user reads a document of interest on the intranet and finds that the author is online. An instant message leads to a brief online meeting where the document is discussed in real-time via a shared whiteboard.

- Team members schedule an online conference to review a proposal. The revised proposal is then sent via e-mail directly to a senior manager for approval.

- A sales team has a product training session online. The initiator saves the session and posts it to the team's discussion database for colleagues who could not attend. Later, a salesperson who missed the meeting replays the content and then phones the initiator to share some concerns.

The point of real-time collaboration, of course, is not to give people more ways to communicate, but to improve the efficiency and effectiveness of their existing communications habits. Real-time tools complement e-mail and other communication mediums by helping individuals connect more conveniently. The result is real business benefits: faster cycle times, greater responsiveness to customers, reduced costs.

Sametime/Domino Integration

While Sametime can be integrated with messaging-only environments like Microsoft Exchange, it has much more to offer as part of the Domino e-business infrastructure.

For example, a Sametime server can run on the same system as a Domino server to simplify pilot programs and support smaller deployments. Sametime can directly use Domino directory and security services. Sametime works seamlessly with the Lotus Notes client.

Sametime also provides ready-made, real-time enabled e-mail, document libraries, and discussion databases that customers can put to work today in their Domino applications. And Sametime's developer tools are designed to help Domino customers leverage their existing expertise to build real-time capabilities into Domino e-business solutions.

Sametime and Knowledge Management

The ability to collaborate in real-time is essential to a company's knowledge management strategy as instant access to experts and their intellectual capital improves efficiency and responsiveness. The decision-making process can be accelerated by allowing your knowledge workers the ability to communicate instantly and from any location. Outside your corporate firewall, Sametime makes knowledge sharing between your customers, partners, and suppliers much simpler because all you need to collaborate is Web access and a browser.

Sametime-Enabled Solutions

When real-time collaboration is made available to a group of people with common goals and interests, a vital community of users is frequently quick to develop. Capabilities like "who's online?" pop-ups, chats among multiple users, instant messaging, and a shared whiteboard can add value to almost any application that is simultaneously shared by multiple users.

For distributed teams, that added value can take the form of better coordination and more productive interactions, leading to decreased cycle times and faster decisions. For e-commerce applications, real-time capabilities can enhance the customer's experience, help increase sales volume, and build customer loyalty.

This section briefly illustrates some high-value ways to enhance widely used applications with real-time collaborative services. Any or all of these solutions can be created using built-in services available in Sametime today.

Almost any application can benefit from real-time capabilities, and Lotus Sametime makes it easy to create killer real-time applications.

Help Desk

At the Help Desk, real-time collaboration can mean better service, delivered faster and at lower cost. With Sametime capabilities, an intranet user can contact a technical support representative live, via a Web browser, and directly share the application in question. The technical support representative can even correct the problem remotely on the user's computer.

Likewise, a customer service desk on the Web could allow users to "click here to chat with a representative." The result is likely to be increased customer satisfaction and better customer retention.

E-commerce

At consumer e-commerce sites, live chat capabilities can boost revenue per hit by increasing the likelihood that visitors will make a purchase. Site visitors can use live chat to find what they want more quickly. Sales representatives can use it to answer questions, ensure the transaction succeeds, and sell more merchandise.

On business-to-business e-commerce sites, awareness and real-time messaging capabilities can form the basis for specialized support services that facilitate a faster sales cycle and improve customer loyalty through better service.

Project Management

Real-time collaborative capabilities simplify project management among distributed teams by enhancing informal communication among team members. Conference calls can include richer visual content. For example, a dispersed engineering team can use a shared whiteboard to review CAD drawings and make changes in real-time, leading to reduced time to market.

Virtual Seminars

Audio conferences are commonplace today. But think how much more valuable they would be if participants could see what the presenter is talking about. For example, a product manager could host a new product announcement where he could walk the field sales force through a presentation and product demo.

Real-time collaboration enhances the possibilities for any form of remote, ad hoc briefing. A financial manager can present ideas online, turning anonymous phone calls into interactive sessions with customers. Many messages are easier to get across with pictures in addition to words.

Conclusion

Inside the firewall, Web-based, real-time collaboration will become as pervasive as e-mail and will become a mode of communication as common and as necessary as the telephony system. In fact, collaborating in real time over IP will soon be as natural as picking up the telephone—and a lot more useful in some cases. Instant access to intellectual capital will become a competitive differentiator in many industries as employees that are geographically dispersed no longer feel the pains of being "out of the loop."

Real-time technologies like Sametime will grow to add significant value outside the firewall as well. Companies will soon come to rely on Web-based, real-time collaboration to do business with their customers, partners, and suppliers, and people will come to expect real-time help in almost any e-commerce related venture. Lotus Sametime is the clear market leader in business-ready, real-time collaboration. Millions of users are finding real and immediate business value in the ability to:

- Provide improved customer support at reduced costs

- Facilitate communication between your company and your customers, partners, and suppliers

- Reduce travel costs and have more efficient and cost-effective meetings

- Have instant access to your organization's intellectual capital

Thousands of companies rely on Sametime to do business. As the undisputed leader in collaboration, Lotus has a clear understanding of how technology can improve business processes, allow closer relationships with your customers, and make knowledge management a reality in your organization.

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